

## Gastric lymphangioma in a patient with a history of breast cancer: A case report

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### Abstract

**Background:** Gastric lymphangioma is an extremely rare benign tumor of the stomach, most often detected incidentally, as patients are frequently asymptomatic or present with nonspecific gastrointestinal symptoms.

**Case presentation:** We report a 45-year-old female with a history of hormone receptor-positive breast cancer who was incidentally found to have a submucosal gastric lesion during oncological follow-up. Radiological and endoscopic findings suggested GIST. The patient underwent laparoscopic antrectomy, and final histopathology revealed gastric lymphangioma.

**Conclusion:** Gastric lymphangioma is an exceedingly rare benign tumor, with management strategies still largely informed by individual case reports rather than established guidelines.

### Introduction

Lymphangiomas are rare benign lesions arising from congenital malformations of the lymphatic system and are most commonly encountered in the head, neck, and axillary regions [1]. Involvement of the gastrointestinal tract is uncommon, accounting for less than 1% with the stomach being an exceptionally rare location [2] and typically identified incidentally or during evaluation of nonspecific gastrointestinal symptoms [3].

Due to nonspecific radiological and endoscopic features, gastric lymphangiomas are frequently misdiagnosed as Gastrointestinal Stromal Tumors (GISTs), duplication cysts, or other submucosal tumors [4]. The treatment and follow-up algorithms are largely based on evidence derived from case reports. We present a rare case of gastric lymphangioma detected during follow-up of a patient with a previous history of breast cancer.

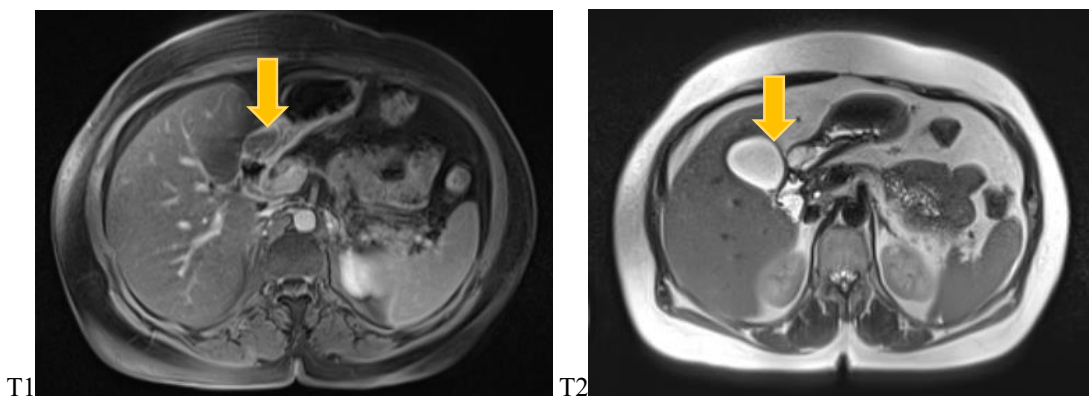
## Case Presentation

A 45-year-old woman was referred following the incidental detection of a gastric lesion during routine oncological follow-up. Seven years earlier, the patient had undergone breast-conserving surgery with sentinel lymph node biopsy for a 2 cm invasive ductal carcinoma located in the retroareolar region of the left breast. Histopathological evaluation demonstrated a hormone receptor–positive, HER2 negative tumor without vascular or perineural invasion, with a Ki-67 proliferation index of 10%. All three excised sentinel lymph nodes were negative for metastatic disease. The patient received adjuvant chemotherapy consisting of four cycles of doxorubicin and cyclophosphamide, followed by adjuvant radiotherapy and endocrine therapy.

During routine oncological surveillance, Positron Emission Tomography–Magnetic Resonance Imaging (PET-MRI) revealed a 3×1.5 cm lesion located on the anterior wall of the gastric antrum, without Fluorodeoxyglucose (FDG) uptake (Figure 1). The radiological differential diagnosis included a gastrointestinal stromal tumor and a gastric duplication cyst. Upper gastrointestinal endoscopy demonstrated a sessile, broad-based, elevated submucosal lesion in the antrum, with an intact overlying mucosa and no evidence of erosion or ulceration, raising suspicion for a submucosal neoplasm, including GIST. Tumor markers were within normal limits (CA-125: 13.1 U/mL, CA 15-3: 5.8 U/mL, CA 19-9: 5 U/mL).

The patient underwent laparoscopic antrectomy. Oral liquid intake was initiated on postoperative day one, and a soft diet was introduced on postoperative day two. The abdominal drain was removed on postoperative day five, and the patient was discharged without complications.

Histopathological examination revealed dilated lymphatic channels lined by flattened endothelial cells within the submucosa, consistent with a diagnosis of gastric lymphangioma. The postoperative course was uneventful during the 3-month follow-up.



**Figure 1:** PET-MRI T1- and T2-weighted images of the lesion.

## Discussion

Gastric lymphangioma is an exceedingly rare entity, with only a limited number of cases reported in the literature [4]. To the best of our knowledge, this case represents the fourth reported case of gastric lymphangioma published since the literature review by Bai et al. in 2022 [5-7]. Based on the limited

available data, gastric lymphangiomas appear to most frequently localize in the antrum [4]. Although clinical manifestations may vary depending on lesion size and location, most cases remain asymptomatic and are identified incidentally. Once incidentally detected, gastric lesions should undergo further evaluation with conventional upper gastrointestinal endoscopy. On standard white-light endoscopy, gastric lymphangiomas present as subepithelial lesions with an intact overlying mucosa, lacking ulceration or erosion, and may demonstrate compressibility when gently probed with biopsy forceps. In this case, similar compressibility was observed intraoperatively, as the lesion flattened upon laparoscopic manipulation with surgical instruments. Recognition of this finding during surgery may be clinically meaningful and should prompt consideration of lymphangioma.

Although Endoscopic Ultrasonography (EUS) was not utilized in this case, it is well established that in subepithelial gastric lesions, it can significantly contribute to diagnosis by accurately defining the layer of origin, evaluating vascular patterns, and distinguishing solid from cystic lesions. Gastric lymphangiomas demonstrate characteristic findings on EUS, given the increased risk of recurrence following incomplete resection [8], it may serve as a valuable tool in preoperative planning by helping to define surgical margins.

Small case series have demonstrated that upper gastrointestinal lymphangiomas can be successfully treated by endoscopic resection techniques [6,7]. Available evidence suggests that clinical outcomes of endoscopic approaches are comparable to those of laparoscopic surgery. Regardless of the therapeutic modality, complete en bloc resection remains the key determinant of successful treatment. Due to their soft consistency and tendency to flatten on compression, gastric lymphangiomas may be difficult to demarcate during endoscopic resection. In this context, EUS should also be performed prior to planning endoscopic resection. The use of indocyanine green has also been reported to aid in delineating surgical margins and ensuring complete resection [9].

In the absence of standardized follow-up guidelines, postoperative surveillance after complete resection of gastric lymphangiomas is generally individualized, with most reports describing favorable outcomes and a low risk of recurrence.

## Conclusion

Gastric lymphangioma is a rare benign tumor that should be included in the differential diagnosis of subepithelial gastric lesions. Surgical resection provides definitive diagnosis and cure. Awareness of this rare entity may help prevent overtreatment and misdiagnosis.

## Declarations

**Ethics statement:** Written informed consent was obtained from the patient for publication of this case report.

**Conflict of interest:** The authors declare no conflict of interest.

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